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**IS 3907 (Part 3) : 1967]**

*भारतीय मानक*

# प्रयोगशाला में उपयोगी जन्तुओं का परिवहन — रीति संहिता

*Indian Standard*

# TRANSPORT OF LABORATORY ANIMALS — CODE OF PRACTICE

ICS 03.220.01; 65.020.30

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**BUREAU OF INDIAN STANDARDS**
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NEW DELHI 110002

*January* 2001 **Price Group 4**

Livestock Husbandry Systems and Equipment Sectional Committee, FAD 60

## FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Livestock Husbandry Systems and Equipment Sectional Committee had been approved by the Food and Agriculture Division Council.

Laboratory animals are primarily used for biological research and production of vaccines in various institutions and establishments. A few of these laboratories and establishments breed and maintain colonies of the laboratory animals. However, there are others that do not have facilities for breeding and maintaining colonies, and as such require these animals to be transported over long distances. The formulation of this standard was, therefore, considered necessary.

Laboratory animals shall be transported in conditions, which will ensure their reaching the destination in a fit condition. Any stress or strain in transit will affect the animals thereby influencing the end results obtained by research workers.

Earlier there were three standards on code of transport of laboratory animals: IS 3907 (Part 1) : 1977 covering requirements for transport of mice, rats, rabbits, guinea pigs, cotton rats and hamsters, IS 3907 (Part 2) : 1967 covered requirements for transport of snakes, and IS 3907 (Part 3) : 1967 covered the requirements for transport of frogs. While reviewing these standards the committee decided to amalgamate them into one standard to make it more comprehensive and user friendly. With the publication of this standard the above mentioned standards shall be withdrawn.

In the preparation of this standard, due consideration has been given to the *Prevention of Cruelty to Animals Act*, 1960 and the Rules framed thereunder. However, it is subject to the restrictions imposed under this Act, wherever applicable and as amended from time to time.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

# *Indian Standard*

# TRANSPORT OF LABORATORY ANIMALS — CODE OF PRACTICE

## 1 SCOPE

**1.1** This standard prescribes the conditions for the transport of laboratory animals by air, rail and road.

**1.2** The laboratory animals covered in this standard are mice (*Mus musculus albino*), rats (*Rattus norvegicus albino*), rabbits (*Oryctolagus cuniculus*), guinea pigs (*Cavia Porcellus*), cotton rats (*Sigmodon hispidus*), hamsters (*Mesocricetus auratus*), snakes and frogs.

## 2 TRANSPORT OF MICE, RATS, RABBITS, GUINEA PIGS, COTTON RATS AND HAMSTERS

### 2.1 Transport Cages

**2.1.1** Animals are, on the whole, adaptable and travel well, provided they are properly packed and protected from extremes of heat and cold. The most common accidents during transit are suffocation of the animals because the ventilation holes in crates become blocked thus overheating and crushing of the fragile containers that eventually lead the animals to escape. It may be useful to select the animals 12 hours before the journey.

**2.1.2** Normally, wooden boxes shall be used; however, well designed and reinforced cardboard boxes which are not easily crushed may be used for transporting mice, rats, rabbits and guinea pigs except hamsters for journeys not exceeding 12 hours duration within the country.

**2.1.3** Wooden boxes shall be used for rodents destined for long journeys.

NOTE — Such containers are acceptable to airlines while unlined cardboard boxes are not acceptable.

**2.1.4** The floor space for various laboratory animals in transport cages shall be as shown in the density chart given in Table 1. Nails, metallic projections or sharp edges shall not be exposed on the interior or the exterior of the cages. Each cage shall be equipped for providing water and feed to the animals when necessary. A suitable absorbent material such as saw dust shall be kept in the dropping trays.

**2.1.5** The cages used for transporting laboratory animals shall be sterilized, preferably with ethylene oxide before use. The bedding material to be provided in the cage shall also be sterilized.

**2.1.6** The appropriate size of the cage and the number of animals suitable to be placed in any one cage or compartment shall be according to the type of animals required to be transported.

**2.1.7** The transport cages for cotton rats shall be the same as that for a rat, except that a few polyvinyl chloride (PVC) pipe pieces of 80 to 100 mm diameter

**Table 1 Density Chart**

(*Clause* 2.1.4)

| Sl No. | Species | Mass of Animals | Number of Animals per Compartment or Cage, *Max* | Space per Animal, cm | Height of Cage, $cm^2$ |
|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |
| i) | Guinea Pigs | 170 to 280 g | 12 | 90 | 15 |
| | | 280 to 420 g | 12 | 160 | 15 |
| | | Over 420 g | 12 | 230 | 15 |
| ii) | Hamsters | Young | 12 | 32 | 13 |
| iii) | Mice | 15 to 20 g | 25 | 20 | 13 |
| | | 20 to 35 g | 25 | 26 | 13 |
| iv) | Rats or Cotton rats | 35 to 50 g | 25 | 40 | 13 |
| | | 50 to 150 g | 25 | 50 | 13 |
| v) | Rabbits | Adult | 12 | 100 | 13 |
| | | Under 2.5 kg | 4 | 770 | 30 |
| | | 2 to 5 kg | 2 | 970 to 1 160 | 30 |
| | | Over 5 kg | 1 | 1 400 | 30 |

should be put inside the cages for the provision of a nest box.

**2.1.8** Cages of similar type and size shall be used for transporting the laboratory animals by air, rail and road.

**2.1.9** The cage shall bear on the face a red arrow showing the upper side. The words 'Top Priority', 'Live Animals' 'Handle with Care' shall also be written.

### 2.2 Ventilation

At least 15 percent of the top and the same proportion of the sides of the cage shall be provided for ventilation by means of wire-mesh window of 4.75 mm size with 0.90 mm wire diameter.

### 2.3 Food and Water

**2.3.1** All animals shall have access to food and water, shortly before despatch.

**2.3.2** Rats, mice, cotton rats, hamsters and guinea pigs travel well if water is supplied by succulents, such as, apples, beetroot, raw potatoes, raw carrots, watermelon, tomatoes, etc.

**2.3.3** Each rabbit cage shall be fitted with two 500 ml water bottles made of glass or rigid polyethylene with drinking tubes, suitably clamped on opposite sides inside the cage (*see* Fig. 1).

### 2.4 Bedding

**2.4.1** The floors of all types of cages for rodents shall be covered with sterilized sawdust, paddy husk, paper cuttings or granulated peat moss to a depth of 25 mm.

**2.4.2** Rabbits and guinea pigs shall be provided with a liberal supply of sterilized hay.

### 2.5 Labels

**2.5.1** All cages shall be well and clearly marked with the name, address and telephone number, if any, of the consignee and the consignor as shown in Annex A. The label shall have the instructions for feeding and watering on route.

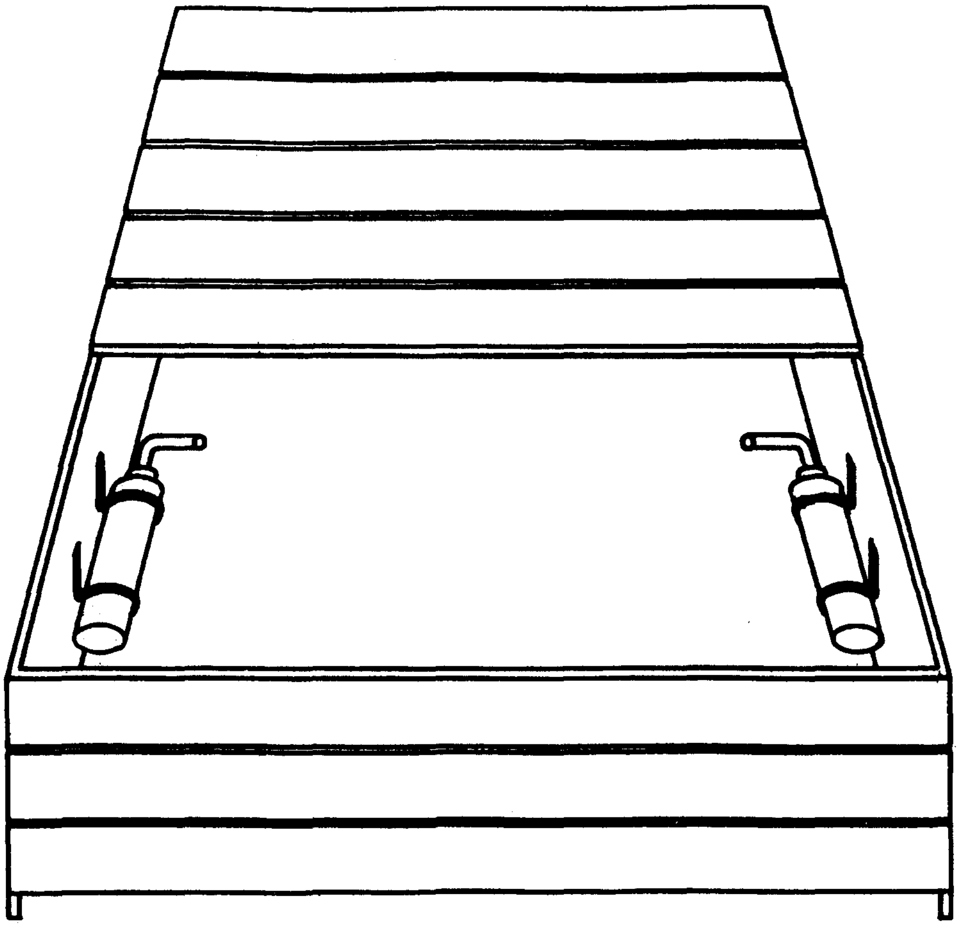


Fig. 1 Arrangement Showing Bottles for Feeding of Water

### 2.6 Export of Animals

**2.6.1** Individual authorities (for example, Government Departments) and countries may have various additional requirements which shall be met and which shall be specified when the order for livestock is placed.

**2.6.2** Clearance certificates shall be obtained from the consignee stating that the livestock shall be admitted subject to local regulations.

**2.6.3** Veterinary certificates of health as shown in Annex B shall be provided in triplicate, each signed by a veterinary surgeon whose signatures are acceptable to the Government of the receiving country. One copy of the veterinary certificate (clearly marked) shall be affixed in a prominent position on the travelling cage; two copies shall be handed over to the shipping agent or airport official. The certificates shall have been signed within 24 hours preceding the time of departure from the transport terminus.

### 2.7 Transport by Air

**2.7.1** The time taken in transit from the breeding laboratory to the airport shall be as little as possible.

**2.7.2** As far as possible direct flights shall be chosen. Arrangements shall be made for looking after the animals if the flight is delayed or cancelled, and for collecting them at the destination. Long waits in warehouses either at the airport of embarkation, or on arrival at the destination or at any intermediate stops shall be avoided.

**2.7.3** It is desirable that only laboratory animals of the same species shall be transported at the same place in the same aircraft. Transport of other species of animals, birds, fish, foodstuffs or poisonous materials, such as pesticides, in the same cabin or compartment shall not be permitted.

**2.7.4** The laboratory animals shall be transported in pressurized compartments with tolerable temperature. Extremes of temperature shall be avoided.

**2.7.5** In the case of non-pressurized aircraft, the carriage of laboratory animals shall be permitted only in the cabins, which shall be well ventilated and in that case the aircraft shall not fly at a height more than 2 750 m above sea level.

### 2.8 Transport by Rail

**2.8.1** The railway authorities should give priority to booking and clearance of laboratory animals.

**2.8.1.1** Rail transport is useful provided the animals are delivered to the railway station shortly before the train is due to leave, and collected without delay on arrival at their destination.

**2.8.1.2** During hot summer months it is not desirable to despatch animals by rail as extreme heat will cause severe stress on animals resulting in death. Alternatively, animals may be transported by air-conditioned coaches if accepted by railway authorities or in well-ventilated compartments during the night. In summer months, an attendant shall accompany the animals.

**2.8.1.3** Animals shall be sent by the quickest possible train. It is desirable that an attendant shall accompany the animals even for a short journey and they are kept in places where no other animals have been placed for carriage.

**2.8.1.4** While transporting laboratory animals by rail, care shall be taken that cats, dogs or other predators do not come near the cages.

### 2.9 Transport by Road

**2.9.1** This mode of transport may be adopted only when laboratory animals are to be transported over very short distances. The vehicle used for transporting these animals shall maintain a constant speed and shall not exceed 40 km/h. The vehicle shall be rested after specified periods. Care shall be taken that the effect of jolting and shocks is reduced to the minimum and dust is avoided, and protection is given from heat and rains.

**2.9.1.1** A vehicle specially adapted for carrying laboratory animals shall have an adequate ventilation system. This should provide a steady stream of fresh air. It is useful to place a thermometer bulb at an appropriate place in the load-space, with a large dial on the dashboard of the vehicle, so as to enable the driver to keep a check on the temperature to which the animals are being subjected. The ventilation system shall continue to operate when the vehicle is at rest and the engine switched off. This may be done with an extra battery.

**2.9.1.2** An attendant shall be present at all times during transit and he shall see that the conditions (**2.9.1**) are observed. He shall also replenish food and water, whenever necessary.

**2.9.1.3** While consigning the animals by trucks, the consignor shall not load the animals in trucks which may collect general merchandise from place to place as this causes delay, extra stress on the animals and may expose them to infection due to contact with other materials.

**2.9.1.4** Road transport carrying passengers is not desirable for the carriage of laboratory animals.

## 3 TRANSPORT OF SNAKES

### 3.1 General Conditions

**3.1.1** Each animal should be given sufficient food and water 36 hours before transport.

**3.1.2** The animals shall be given water before putting them in muslin cloth bag (*see* **3.2.1**).

**3.1.3** The animals shall not be kept in extreme temperature, a cold place or direct sunlight.

### 3.2 Bags and Cages

**3.2.1** *Bags*

The bags shall be made of muslin cloth. It shall be double stitched at one end and the other end shall be fully open with a cord string running along the hem for tightening purposes. Bags of size 500 cm × 25 cm shall be used.

The snakes shall be secured in the cloth bags by the cord string. The bags containing snakes shall be placed in the transport cages.

Each snake shall be packed in a bag individually.

**3.2.2** *Cages*

The transport cage (*see* Fig. 2) shall have a lid on the top. It shall be fixed by hinges, hasps and staples.

**3.2.2.1** The dimensions of the cage, lid, and hinges, hasps and staples shall be as given below:

| | |
|---|---|
| Cage | 50 cm × 50 cm × 25 cm |
| Lid | 25 cm × 25 cm × 2 cm |
| Hinges, hasps and staples | 8 cm × 3 cm |

**3.2.2.2** It shall have eight small holes for ventilation on each of the four sides and top of the lid. The ventilation holes shall be covered with strong wire gauze or perforated metal sheet. The wire gauze shall be held in between the two planks which make up each side of the cage (*see* Fig. 2).

**3.2.2.3** The diameter of ventilation holes shall be 1 cm.

**3.2.2.4** The planks may be 1 cm thick.

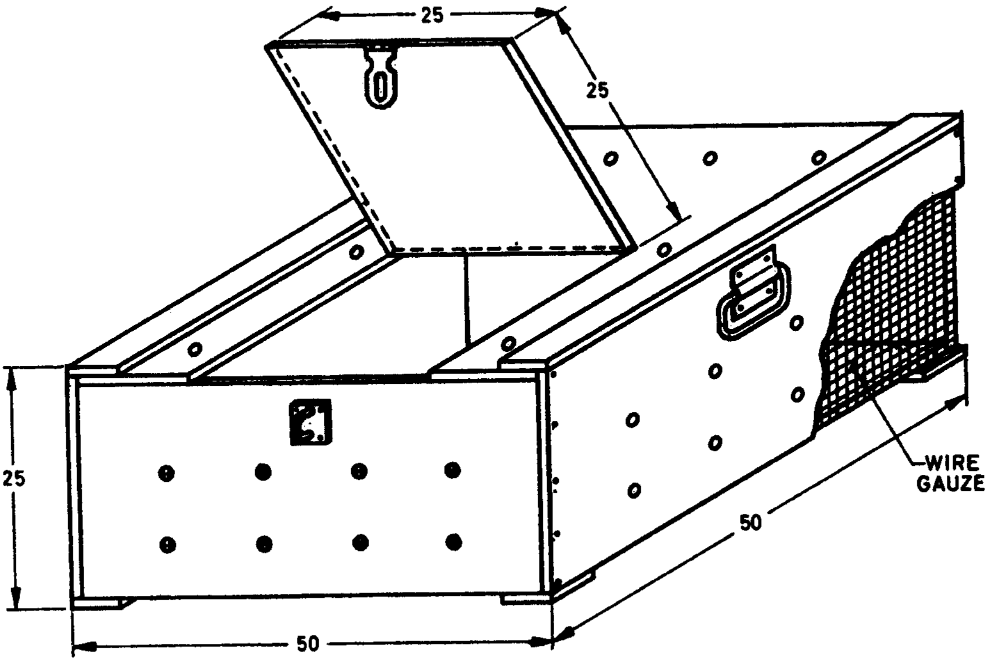
**3.2.2.5** The wire gauze may be of 1.00 mm size.

**3.2.2.6** Cages may be made from teakwood.

**3.2.2.7** Each cage shall contain not more than six snakes when each is one metre or more in length; or 100 snakes may be transported when each is not more than 30 cm long.

### 3.3 Locking

**3.3.1** The cage before despatch shall be locked and the lock along with the key shall be stitched in a cloth bag and sealed.



All dimensions in millimetres.

FIG. 2 CAGE FOR THE TRANSPORT OF SNAKES AND FROGS

**3.3.2** The seal shall be checked at the destination.

### 3.4 Used Bags and Cages

**3.4.1** Bags once used for transport, if desired to be used again, shall be washed first by soaking for 20 minutes in disinfecting fluid containing at least 5 percent carbolic acid solution and then for 10 minutes in boiling soda ash or soap solution. Then, the bags shall be washed with cold water thoroughly to remove all the smell of disinfecting fluid or soap and then dried.

**3.4.2** The used cages before re-using for transport, shall also be first rinsed with disinfecting fluids containing at least 5 percent carbolic acid solution and then washed with soap solution and finally rinsed with water.

### 3.5 TRANSPORT BY RAIL OR AIR

**3.5.1** The animals shall be transported by air if it takes more than 36 hours in transport to a place by rail.

**3.5.2** The animals shall be transported in the brake van of the train without any attendant only when the lock and key are properly sealed and when guarantee for safe conveyance of live snakes without an attendant is given in prescribed form (Annex C), by the consignor.

### 3.6 Labelling of Cages

**3.6.1** Clear instructions shall be given on the cages that the snakes need to be kept dry or damp.

**3.6.2** The following instructions shall be printed on a label and fixed to the lid or printed directly on the lid:

> DANGER. LIVE SNAKES. KEEP AWAY FROM EXTREME HEAT OR COLD AND DIRECT SUNLIGHT

**3.6.2.1** The address of the consignor and consignee shall be arched at a prominent place on the cage including telephone numbers and preferably the date of despatch.

**3.6.3** In case of poisonous snakes, a label shall be tied to the bags stating that it contains poisonous snakes.

### 3.7 Certificate of Safety

**3.7.1** A certificate shall be pasted and copy shall be given to the transport authority after sealing the lock and key in cloth bag (*see* **3.3.1**). A guarantee of safety for conveyance of live snakes without being accompanied by an attendant during transport shall form the matter of the certificate as given in Annex C.

**3.7.2** No attendant is needed in any mode of transport after proper sealing of the lock and key.

## 4 TRANSPORT OF FROGS

### 4.1 Storing and Feeding

**4.1.1** The frogs to be transported shall be stored in humid places preferably near water in wet drenching gunny cloth.

**4.1.2** The animals shall be properly fed before despatch.

### 4.2 Gunny Bags

**4.2.1** The gunny bag shall be of 40 cm × 40 cm in size.

**4.2.2** Each gunny bag shall lie loose with the open end tied up inside the cage.

**4.2.3** The gunny bag shall be drenched with water.

**4.2.4** The weight of each gunny bag (*see* **4.3**) containing frogs shall not exceed 5 kg. The number of frogs in a bag may be about 20. The frogs of the same species and approximately of the same size shall be placed in a bag.

**4.2.4.1** The gunny bags shall be first cleaned with soda ash and then washed with plenty of fresh water.

### 4.3 Transport Cage

**4.3.1** The transport cages shall meet the requirements given in **3.2.2**.

**4.3.2** Each transport cage shall not contain more than 2 gunny bags — one on each side.

**4.3.2.1** Empty space in the cage shall be stuffed with additional wet gunny bags to minimize jolting during transport without hampering ventilation, whenever lesser number of frogs are to be transported.

**4.3.2.2** The cages shall be first cleaned with soda ash and then washed with plenty of fresh water.

### 4.4 Locking

The cage before despatch shall be locked and the lock along with the key shall be stitched in a small cloth bag and sealed.

### 4.5 Transport by Rail or Air

**4.5.1** The frogs shall be transported by air when the time of journey exceeds 36 hours.

**4.5.2** There is no need of an attendant to accompany the frogs during transport either by rail or by air.

### 4.6 Labelling of Cages

**4.6.1** The following instructions shall be printed on a label and fixed to the lid or printed directly on the lid:

> LIVE FROGS, KEEP AWAY FROM EXTREME HEAT OR COLD AND DIRECT SUNLIGHT.

**4.6.2** The address of the consignor and consignee shall be marked at a prominent place on the cage including telephone numbers and preferably the date of despatch.

## 5 CARE IN SHIPMENT AND ON ARRIVAL OF LABORATORY ANIMALS

**5.1** Shipment shall be planned to arrive on a working day to facilitate handling and care on arrival and to avoid unnecessary stress on the animals.

**5.2** The consignee shall be informed about the train arrival or flight number and its time of arrival in advance.

**5.3** On arrival of the consignment, railway and customs authorities shall give priority in clearance.

# ANNEX A

(*Clause* 2.5.1)

## DETAILS OF LABELLING OF CONSIGNMENT

TO

NAME :

ADDRESS :

TELEPHONE :

---

Order No. Despatched

Species

Strain Box No.

Name and address of
the consignor

Telephone

---

TOP PRIORITY — LIVE ANIMALS (To be given in red bold letters)

FOR MEDICAL RESEARCH (Picture of the laboratory animal)

HANDLE WITH CARE

KEEP IN A WELL-VENTILLATED PLACE, AVOID EXTREMITIES OF HOT OR COLD

INSTRUCTIONS FOR FEEDING AND WATERING

# ANNEX B

(*Clause* 2.6.3)

## VETERINARY CERTIFICATE OF HEALTH

I hereby certify that I have today examined (number and species of animals) which were breed at (address) and have found them to be free from any visible sign of disease.

Signature:

Designation:

Date:

# ANNEX C

(*Clauses* 3.5.2 *and* 3.7.1)

## CERTIFICATE FOR GUARANTEE OF SAFETY FOR HANDLERS

This is to certify that the snake cage is locked and absolutely safe for conveyance of live snakes without an attendant.

Signature :

Name :

Designation :

Address :

reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Handbook' and 'Standards: Monthly Additions'.

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